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Clean Version of Pending Claims

COMPOSITIONS AND METHODS FOR TREATING CELLS HAVING DOUBLE MINUTE

DNA

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1. (Twice Amended). A method of identifying a therapeutic agent, which decreases the presence of double minute chromosomes or extrachromosomal DNA in a cell, comprising:
contacting a portion of test cells with a potential therapeutic agent to produce treated test cells wherein the test cells contain a known level of double minute chromosomes or extrachromosomal DNA and are capable of undergoing micronucleation; and
assaying the treated test cells to determine their level of micronucleation of double minute chromosomes or extrachromosomal DNA, wherein an increased level of micronucleation and decreased level of double minute chromosomes or extrachromosomal DNA relative to that of an untreated portion of test cells indicates that the potential therapeutic agent is an actual therapeutic agent.

2. The method of claim 1, wherein the test cells lack functional tumor suppressor protein.
3. The method of claim 1, wherein the test cells contain an oncogene.
4. The method of claim 1, wherein assaying is conducted by FISH, flow cytometry, centrifugal fractionization or histone-GFP labeling.

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28. (Once Amended) A method according to claim 1 comprising determining whether the treated test cells have undergone reversion of a neoplastic phenotype, differentiation or apoptosis.

29. A method of identifying a therapeutic agent suitable for treatment of neoplastic cells having double minute chromosomes or extrachromosomal DNA, comprising:
contacting test cells with a potential therapeutic agent to produce treated test cells wherein the test cells contain double minute chromosomes or extrachromosomal DNA, are neoplastic and are capable of undergoing micronucleation; and
assaying the treated test cells to determine their level of micronucleation of double minute chromosomes or extrachromosomal DNA, wherein an increased level of micronucleation relative to that of an untreated portion of test cells indicates that the potential therapeutic agent is an actual therapeutic agent.

B3 30. (Once Amended) A method according to claim 29 comprising determining whether the treated test cells have undergone reversion of a neoplastic phenotype, differentiation or apoptosis.
